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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/582,708	06/12/2006	Fumio Takeshima	025416-00031	7573

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ARENT FOX LLP  
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WASHINGTON, DC 20036

EXAMINER
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CHANG, CHING

ART UNIT	PAPER NUMBER
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3748

NOTIFICATION DATE	DELIVERY MODE
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11/28/2008

ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

DCIPDocket@arentfox.com  
IPMatters@arentfox.com  
Patent\_Mail@arentfox.com

<b>Office Action Summary</b>	<b>Application No.</b> 10/582,708	<b>Applicant(s)</b> TAKESHIMA ET AL.	
	<b>Examiner</b> CHING CHANG	<b>Art Unit</b> 3748	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 21 August 2008.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 8-13 is/are allowed.
- 6) ☒ Claim(s) 1-7 and 14 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>6/12/06, 8/9/06, 6/8/07, 10/15/08</u> . | 6) <input type="checkbox"/> Other: _____  |



### DETAILED ACTION

This Office Action is in response to the amendment filed on 8/21/08. New claim 14 is added as requested.

#### ***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. ***Claims 1, 3-5, and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kobayashi (JP '910) in view of Ito et al. (US Patent 5,081,858), and further in view of Shamshidov et al. (US Patent 7,134,939).***

Kobayashi discloses a camshaft comprising: a shaft (2; 12; 22; 102; 202) formed by cold forging; and a cam (3; 103; 203) mounted on said shaft; said cam being press-fitted over said shaft; wherein said shaft has a cut surface defined on a side; wherein said cam has a shaft insertion hole (4); further comprising: a gear (1; 11; 21; 201) mounted on said shaft; said gear being press-fitted over said shaft.

Kobayashi discloses the invention as recited above, however, fails to disclose a powdery lubricant being applied to cold forging the shaft.

The patent to Ito on the other hand, teaches that it is conventional in the cold forging art, to have utilized a powdery lubricant during a cold forging process.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have applied the powdery lubricant as taught by Ito, in a cold

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forging process to make the shaft for the Kobayashi device, since the use thereof would provide a good quality and low cost camshaft.

The modified Kobayashi device discloses the invention as recited above, however, fails to disclose the lubricant being applied to an etched shaft surface.

The patent to Shamshidov on the other hand, teaches that it is conventional in the mechanically interacting surfaces art, to have utilized a mechanical piece having an etched surface engaged with another piece in relative sliding movement (See Fig. 5).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to make an etched surface, as taught by Shamshidov, on the shaft of the modified Kobayashi device, with the lubricant applied, since the use thereof would provide a low cost and durable camshaft.

3. ***Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kobayashi in view of Ito et al., further in view of Shamshidov et al. (as applied to claim 1), and further in view of Sudoh et al. (US Patent 4,553,416) or Matsumoto (JP '173).***

The modified Kobayashi device, however, fails to disclose said powdery lubricant comprising lime or borax.

The patent to Sudoh or Matsumoto on the other hand, teaches that it is conventional in the cold working process art, to have utilized a powdery lubricant comprising lime or borax.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have applied the powdery lubricant comprising lime or borax, as

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taught by Sudoh or Matsumoto, in the cold forging process to make the shaft for the modified Kobayashi device, since the use thereof would provide a good quality and low cost camshaft.

4. ***Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kobayashi in view of Ito et al., further in view of Shamshidov et al. (as applied to claim 1), and further in view of Ikeda (JP '422).***

The modified Kobayashi device, however, fails to disclose said gear being made of resin and has a metal bushing.

The patent to Ikeda on the other hand, teaches that it is conventional in the engine art, to have utilized a resin made gear (18) with a metal bushing (10), attached to a shaft (11).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to use a resin made gear with a metal bushing as taught by Ikeda, attached to the shaft of the modified Kobayashi device, since the use thereof would provide a lighter and less noisy camshaft.

5. ***Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kobayashi in view of Ito et al., further in view of Shamshidov et al. (as applied to claim 1), and further in view of Toyota (JP '505).***

The modified Kobayashi device, however, fails to disclose said shaft has a step providing different diameters on both sides thereof, said cam being positioned by abutment against said step.

The patent to Toyota on the other hand, teaches that it is conventional in the engine art, to have utilized a stopper (3) to prevent a press-fitted gear (4) from being detached from a camshaft (1).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the stopper as taught by Toyota, to abut the press-fitted cam in the modified Kobayashi device, since the use thereof would provide a more reliable camshaft.

***Allowable Subject Matter***

6. Claims 8-13 are allowed.

***Response to Arguments***

7. Applicant's arguments with respect to claims 1-7 have been considered but are moot in view of the new ground(s) of rejection.

***Conclusion***

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any

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extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to CHING CHANG whose telephone number is (571)272-4857. The examiner can normally be reached on M-Th, 7:00 AM -5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas Denion can be reached on (571)272-4859. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Ching Chang/  
Primary Examiner, Art Unit 3748